

## REMARKS

It is sincerely believed that the Rao declaration effectively overcomes the sole ground of rejection of the claims, namely the alleged obviousness of the claimed subject matter over United States Patent No. 5,762,936 (*Ronzio et al.*) taken in combination with the *Parr* reference. Between these two references *Ronzio et al.* is the primary one, and is the one relied on for the rejection of the claims. All pending claims now state the the phenolics are bound by covalent bonds to the vegetable protein. The Examiner stated his view that the phenolics of the *Ronzio et al.* reference are also inherently bound by covalent bonds to the protein. This in essence is the ground for the rejection of the instant claims.

However, the Rao Declaration clearly points out the scientific error in the view that the *Ronzio et al.* reference describes a product containing phenolics covalently bound to protein. Therefore, the theory relied on for the rejection is inapplicable to the claims, and the claimed subject matter is patentable over all cited prior art.

In the event the Examiner is of the opinion that a telephone conference with the undersigned attorney would materially facilitate the final disposition of this case, he is respectfully requested to telephone the undersigned attorney at the below listed telephone number.

Respectfully submitted

By: *Gabor L. Szekeres*  
*Gabor L. Szekeres*  
Registration Number 28,675

**Law Offices of Gabor L. Szekeres**  
**8141 E. Kaiser Blvd. Suite 112**  
**Anaheim CA 92808**  
**Tel: 714 998 3295**  
**Fax: 714 998 3296**



ATTORNEY DOCKET NO. 631 07 PA

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of ) Examiner: Roy R. Teller  
Yatcilla et al. ) Art Unit: 1654  
Serial No.: 09/904,713 )  
Filed: July 12, 2001 )  
For: Food Products and Dietary )  
Supplements Containing )  
Phenolated Proteins and Pro- )  
cess for Preparing the Same )

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I hereby certify that this correspondence is being deposited on 7-31-03 with the United States Postal Service as first class mail in an envelope addressed to Commissioner for Patents, P.O.Box 1450, Alexandria VA 22313-1450 Mail Stop AF

Toni Whyte

Date 7-31-03

Toni Whyte

DECLARATION OF PROFESSOR A VENKETESHWER RAO Ph.D.

I, A. VENKETESHWER RAO Ph.D. HEREBY DECLARE AS FOLLOWS:

1. In 1966 I obtained a Ph. D. degree from Oregon State University in the field of Food Sciences. In 1967 I joined the faculty of the University of Toronto (Ontario, Canada) as an Assistant Professor in the Faculty of Food Sciences. Since approximately 1994 I have been a Full Professor in the Department of Nutritional Sciences, in the faculty of Medicine at the University of Toronto. My current title at the University of Toronto is Professor Emeritus, in the same department.

2. In the years approximately 1993 to 1996 I served as Director of the Collaborative Program in Toxicology at the University of Toronto. In the years approximately 1992 to 2001 I also served as Director of the Program of Food Safety, Nutrition and Regulatory Affairs of the University of Toronto. I am author of more than seventy publications in peer-reviewed scientific journals pertaining to Nutrition, Health and Food Science. I have served on several expert committees in Canada and internationally, and participated in many national and international conferences pertaining to Nutrition, Health and Food Science. I have also been an invited speaker in many such conferences. I have acted and continue to act as a consultant to several food and pharmaceutical companies, including U. S. companies, pertaining to Nutrition, Health and Food Science.
3. Whereas I consider myself an expert and I am an expert in the fields of Nutrition, Health and Food Science, my special interest and expertise is in the fields of diet and disease, with emphasis on the role of oxidative stress and anti-oxidants in the causation and prevention of chronic diseases, and I have published several papers in peer-reviewed scientific publications pertaining to these subjects.
4. I am making this declaration in support of the above-identified United States patent application. I personally have no proprietary interest in the patent application, nor in the corporation to which the application is assigned.
5. I reviewed the patent application and its claims as they were submitted to the U. S. Patent Office in an amended form on March 6, 2003. I also reviewed United States Patent No. 5,762,936 (*Ronzio et al.*) which I understand is the principal reference cited against the claims. I note that plant phenolics being anti-oxidants are within the field of my special expertise. I am of the expert opinion that the *Ronzio et al.* reference

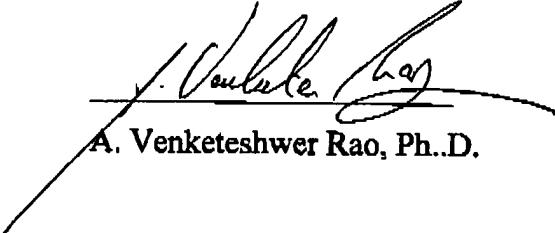
has no commonality of any substance with the patent application and the patent claims, and that the subject matter of the patent claims is inventive and NOT obvious over this cited reference.

6. More specifically, I understand that the patent Examiner is of the view that the *Ronzio et al.* reference discloses phenolics bound to vegetable protein and that the phenolics bound to vegetable protein of this reference are *inherently bound by covalent bonds*. In my expert opinion this view by the Examiner is in scientific error. The most common groups on surfaces of proteins are hydroxyl (OH) groups that tend to undergo hydrogen bonding to other molecules. This hydrogen bonding (through Van der Wals forces) is weak and is not considered a covalent bond. To the extent the *Ronzio et al.* reference discloses phenolics bound to vegetable protein (and such disclosure is rather obscure in the reference) such phenolics are *inherently bound by hydrogen bonds and not by covalent bonds* to the protein in the reference.
7. The above-identified patent application and the claims pertain to a product that was obtained in a process where an extract containing proteins and phenolics was made alkaline and then subjected to oxidation. These are the steps that cause the majority of covalent bonds to form between the protein and the phenolics. This is because the protein is likely to have a number of disulfide (-S-S-) bonds which tend to break up in the alkaline medium, and subsequent oxidation causes covalent bonds to form between the sulfur attached to the protein and the phenolic compounds, as this is shown in the patent application itself. These steps are missing from the *Ronzio et al.* reference, and this omission is another reason why the reference inherently does NOT contain covalent bonds between the protein and the phenolics. In my expert opinion, the claims of the above-identified application are

definitely inventive over the cited reference, taken alone or in combination with other references.

8. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Dated:



A. Venketeshwar Rao, Ph.D.